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BY FAX to 215-814-2124

David L. Arnold, Chief
Ozone & Mobile Sources Branch
Mailcode 3AP21
EPA Region III
1650 Arch Street
Philadelphia, PA 19103

RE: Proposed EPA actions on State Implementation Plans (SIPs) for the --
Philadelphia Metropolitan severe nonattainment area, including plans from New Jersey, Pennsylvania, Delaware and Maryland;
Baltimore Metropolitan severe nonattainment area;
Metropolitan Washington D.C. serious ozone nonattainment area, including plans from Maryland, Virginia and the District of Columbia, 64 Fed. Reg. 70460 (12/16/99).

Dear Mr. Arnold:

EPA proposes to disapprove State Implementation Plans for nine nonattainment areas, as submitted, based on the failure to provide emission reductions sufficient to attain the NAAQS and for other deficiencies. The nonattainment areas referenced above are included in the nine areas. EPA also proposes to approve the attainment demonstrations for these nine nonattainment areas if additional measures are submitted that achieve further emission reductions that EPA believes may be adequate to attain the NAAQS. In addition, EPA proposes to approve the attainment demonstration for Springfield MA without further emissions reductions. Except for the Chicago nonattainment area where no motor vehicle budget was submitted, EPA also proposes to find adequate the motor vehicle emissions budgets (MVEBs) for each nonattainment area if the attainment demonstration is found to be approvable. Environmental Defense and Natural Resources Defense Council submit these comments in support of EPA's reasons finding the SIPs unapprovable as submitted, and in opposition to the proposed contingent approvals of attainment demonstrations. Accordingly, commenters also oppose any action to determine adequate MVEBs that are derived from attainment demonstrations that do not provide for attainment. Commenters also submit additional comments addressing other requirements of the Act in anticipation of EPA's actions on remaining elements of these SIPs.

Now that EPA has promulgated a revised 8-hour NAAQS for ozone at 80 ppb that requires substantially greater emissions reductions for attainment than the former 120 ppb standard, implementation of the 1-hour NAAQS must be seen as an interim strategy toward ultimate attainment of air quality adequate to protect public health. Attaining the 1-hour NAAQS is not adequate to protect public health for all the reasons the Administrator determined in her NAAQS review. Therefore, protection of public health demands more than implementation of the 1-hour NAAQS.

As an interim strategy, EPA must at least ensure that measures implemented now will be sufficient to fully meet the 1-hour NAAQS and make as much progress toward implementing the 8-hour NAAQS as the requirements of the CAA and implementing regulations allow. Accordingly, commenters ask that EPA require full compliance with regulatory requirements now in place that govern the development of attainment strategies, and rigorous implementation as expeditiously as practicable of statutory requirements for RACT and RACM. The submitted attainment demonstration SIPs generally do not satisfy these requirements. Therefore, commenters ask that EPA --

- act quickly to seek compliance from the states with recent EPA guidance requiring the submission of all RACM, including reasonably available TCMs;
- determine the adequacy of motor vehicle emission budgets based on the total reductions in motor vehicle emissions achievable through the implementation of all reasonably available TCMs;
- act to approve submitted control measures to allow implementation as expeditiously as practicable, and
- require the use of approved air quality models to determine the magnitude of emission reductions needed to demonstrate attainment.

Failure to reduce aggressively the precursors of ozone pollution perpetuates a major health threat to millions of Americans in these metropolitan areas with asthma, other chronic lung ailments, and otherwise healthy individuals who are especially sensitive to ozone. Most of these cities had more 1-hour NAAQS violations in 1999 than they have had since early in the decade. All of these cities had three to six times more days that also exceeded EPA's new 8-hour ozone standard. We urge EPA to reject the dilatory approaches embodied in the proposed approvals, and to instead disapprove the SIPs until they are revised to include enforceable versions of all reasonably available control measures, all RACT and demonstrate using the approved Urban Airshed model that they will attain the 1-hour health standard at the earliest possible date.

1. Failure to demonstrate timely attainment and rates of progress:

a. The plan does not show attainment:

None of the plans for serious or severe areas demonstrate attainment in the manner required by the Act, even assuming boundary conditions resulting from the hoped-for implementation of the NOx SIP call. Each state's photochemical grid modeling clearly predicts continued nonattainment under these conditions, with predicted ozone peaks well above the NAAQS. Only by engaging in a series of speculative adjustments to the model results is EPA able to create a hypothetical attainment scenario. This "weight of evidence"(WOE) approach does not satisfy the Clean Air Act's

mandate to assure attainment as expeditiously as practicable, and no later than the statutory deadline. Nor does it comply with the Act's explicit requirements for a modeled demonstration of attainment.

Section 182(c)(2)(A) of the Act requires that the attainment demonstration "must be based on photochemical grid modeling or any other analytical method determined by the Administrator, in the Administrator's discretion, to be at least as effective." EPA's SIP regulation requires: "The adequacy of a control strategy shall be demonstrated by means of applicable air quality models, data bases, and other requirements specified in appendix W of this part (Guideline on Air Quality Models)." 40 CFR § 51.112(a)(1). Appendix W does not identify an alternative analytical method other than specified versions of the Urban Airshed model for making ozone SIP air quality demonstrations. It certainly contains no finding that any alternative method is as effective for making such demonstrations. If the Urban Airshed model has been selected as the state-of-the-art analytical tool for making assessments of ozone concentrations, then the Act and EPA's SIP approval rules require that any final approval of an attainment demonstration must be based on the output of such a model.

The WOE approach EPA has adopted as a substitute for modeled attainment using the UAM is a modified version of a proportional rollback technique. **Guidance for Improving Weight of Evidence Through Identification of Additional Emission Reductions, Not Modeled** (November 1999). The Guidance offers States the choice of one of two techniques for estimating the additional emissions reductions when the UAM predicts continued future violations of the NAAQS, neither of which requires the state to demonstrate by modeling that the emission reductions required by either technique would attain the NAAQS. Thus neither approach satisfies EPA's attainment demonstration regulation.

One of these techniques compares the ration of modeled concentrations in a baseline year and the attainment year against comparisons of the delta in emissions inventories for the two years. The results of this comparison is then used to calculate the additional emissions reductions necessary to reduce modeled air quality down to the NAAQS. This approach cannot cure any of the feared flaws in the UAM because it is based on comparisons of UAM results without any relationship to measured air quality. At the core, this technique assumes that if emissions reductions between the two modeled years are expected to produce the modeled reduction in emissions, then any remaining shortfall in modeled air quality compared to the NAAQS can be achieved by further reducing emissions by the same ratio as the percent change in air quality. This is a rollback technique because it assumes a linear relationship between emissions of ozone precursors and ozone concentrations. It also perpetuates any flaws in the model because the slope of the assumed linear relationship is derived from the model.

The second technique compares the monitored reductions in air quality with the percentage reduction in ozone air quality over the same time period, and assumes that future reductions in ambient ozone will be achieved as future emissions are reduced by the same ratio as was calculated for historical reductions in the airshed. This also is a rollback technique because it assumes a linear relationship between emissions and ozone concentrations.

EPA provides no evidence in its Guidance that the core assumption underlying both techniques – i.e, that ozone will be reduced in the same proportion as emissions -- is valid. Indeed, both approaches violate EPA's modeling Guidance which unequivocally states that "Proportional (rollback/forward) modeling is not an acceptable procedure for evaluating ozone control strategies." 40 CFR Part 51, Appendix W, section 6.2.1.e. This prohibition is derived from a review of the scientific literature of the atmospheric chemistry of ozone formation and tests of modeling techniques designed to replicate that chemistry in urban atmospheres. That literature, cited in the bibliography to Appendix W, is incorporated here by reference.

EPA may not lawfully approve SIPs based on a modeling technique that has been expressly prohibited by rule. Nor may EPA modify the rule in this proceeding without expressly proposing to do so. In order to modify the prohibition against the use of proportional rollback techniques in Appendix W, EPA would have to demonstrate that the alternative approach chosen is as "effective" as the UAM required by Appendix W. Congress was aware of the literature cited by EPA in Appendix W when it enacted the instruction to use photochemical grid modeling as the basis for approving attainment demonstrations. In the context of the statutory directive governing the approval of plans to meet the NAAQS, it is clear that Congress intended EPA to use photochemical grid modeling unless another method could be found that is as reliable and as precise in replicating the atmospheric chemistry of ozone formation in urban atmospheres.

EPA has offered no evidence or analysis to support such a finding. In the absence of a proposed rule containing such a showing, any attempt to ignore or modify the existing rule would be arbitrary and capricious and not in accordance with law.

The November 1999 Guidance is also flawed for other reasons. It allows the averaging of the three highest air quality sites across a region, whereas EPA's modeling guidance requires that attainment be demonstrated at each site. This has the effect of allowing lower air quality concentrations to be averaged against higher concentrations thus reducing the total emission reduction needed to attain at the higher site. The Guidance also treats the ratios for NOx and VOC the same, whereas the UAM is based on data showing that under varying conditions, the contribution of VOC vs NOx to ozone concentrations varies from site to site. The model accounts for these conditions, whereas the proportional roll back technique does not.

The Guidance approach fails to satisfy the tests for applying a model adopted by the DC Circuit:

"An agency's use of a model is arbitrary if that model 'bears no rational relationship to the reality it purports to represent.' *American Iron & Steel Inst. v. EPA,* 115 F.3d 979, 1005 (D.C. Cir. 1997) (quotations and citations omitted)." Columbia Falls Aluminum Co. v. EPA, ---F.3d ---, --- (D.C.Cir.1998). "If, however, 'the model is challenged, the agency must provide a full analytical defense.' *Eagle-Picher Indus., Inc. v. EPA,* 759 F.2d 905, 921 (D.C. Cir. 1985); *see also Natural Resources Defense Council, Inc. v. Herrington,* 768 F.2d 1355, 1385 (D.C. Cir. 1985). Furthermore, EPA 'retains a duty to examine key assumptions as part of its affirmative burden of promulgating and explaining a non-arbitrary, non-capricious rule.' *Small Refiner Lead Phase-Down Task Force v. EPA,* 705 F.2d 506, 534 (D.C. Cir. 1983)." EPA has not made the showings required to justify its WOE Guidance.

The WOE approach is also arbitrary and capricious because it grants the Agency unbounded discretion to dispense with modeling results and flout the law. EPA concedes that its WOE guidance "contains no limit on how close a modeled attainment test must be to passing to conclude that other evidence besides an attainment test is sufficiently compelling to suggest attainment." 64 Fed. Reg. at 70463. Thus, the WOE approach would allow the Agency to approve an attainment demonstration even if the modeled test results showed predicted ozone levels 50% or even 100% in excess of the standard. Such an approach is the antithesis of rational decisionmaking based on sound science.

The arbitrariness of the WOE approach is graphically illustrated by the data in some cities. The urban airshed model predicts a peak ozone level of 156 ppb in the D.C. area after application of controls - more than 25% higher than the NAAQS. Even after adjusting that peak for the model's alleged "over-prediction" of ozone levels, the predicted peak is still 142 ppb[1] – nearly 15% higher than the NAAQS and higher than the 137 ppb level at or below which EPA allows for downward adjustment under its alternative test. Despite the foregoing, the Agency still asserts that attainment is shown based on a WOE test.

In Houston, EPA has not even applied its November Guidance because the result is absurd. Application of the Guidance there would require negative emissions to demonstrate attainment. The special technique EPA applied there is substantially at variance with the results of a modeling analysis performed by the State using the UAM. The UAM results demonstrated that total NOx emissions in the airshed need to be reduced to 230 t/d to demonstrate attainment, whereas EPA's ad hoc roll back technique would allow 259 t/d, or 12.6% higher emissions. EPA has provided no explanation why it did not rely on the UAM results, or why it determined the ad hoc rollback method to produce results that are more reliable or at least "as effective."

In a conference call with EPA policy and technical staff on January 13, 2000, to review the November 1999 Guidance, EPA technical staff on the call admitted that the rollback technique is not as "robust" or as "rigorous" as the UAM, and also admitted that the rollback method has not been tested for reliability or peer reviewed. Agency staff explained that the technique was developed to estimate additional reductions in order to accommodate an expeditious decision schedule for determining the adequacy of State attainment demonstrations. It was explained that it takes many weeks to set up the inputs to the UAM and then another 8 to 10 days to run the model. EPA stated it lacked the staff time and resources to independently run the model for each nonattainment airshed. The Agency staff also suggested that there was evidence that UAM did not show reductions in ambient ozone concentrations of the magnitude expected given the size of emissions reductions achieved in some areas.

Commenters understand EPA's need to make an expeditious decision regarding the adequacy of state emission reduction strategies, but unless EPA has the duty to promulgate a federal

[1] EPA uses a flat 19% to reduce predicted ozone peaks based on an average of 19% over-prediction by the model as to certain years. Such a blanket approach is not technically justified. EPA offers no basis for concluding that the model always over-predicts by this amount, and in fact the record does not support such a claim. Nor does EPA identify specific causes for such overprediction or explain why it can be assumed in the current modeling results. A flat percentage reduction based on assumed model overprediction is inconsistent with EPA's own data and analysis showing that ozone levels do not respond in linear fashion to changes in emissions or other factors.

plan under §110(c), it need not bear the burden of making a final determination of the magnitude of additional reductions needed for attainment. EPA's obligation in reviewing a SIP is to determine whether it demonstrates attainment under §§ 110(a)(2), 172(c) and 182(c)(2)(A). EPA properly relied on the submitted UAM results to determine that the submitted attainment demonstrations are not adequate, and that additional emissions reductions are needed. It certainly was also permissible for EPA to use its Guidance to suggest to the states the magnitude of additional reductions that might be tested in the UAM to determine what further reductions would be required. But it is not lawful or reasonable for EPA to propose contingent approval of attainment demonstrations based on emissions reductions using a rollback technique that EPA has found scientifically unacceptable for the purpose of reviewing the adequacy of ozone control strategies.

The WOE is also arbitrary and capricious because by its design and application, it is used only to negate a modeled demonstration of nonattainment. EPA does not use WOE techniques in the other direction to negate a modeled demonstration of attainment. There is no conceivable justification for such a biased approach, which conflicts with the Act's purpose of ensuring protection of public health.

In its application of WOE, EPA looks only at those "weights" that favor a finding of attainment. The Agency ignores evidence showing that continued nonattainment is likely. For example, actual monitored ozone levels in many cities during 1999, as reported in EPA's AIRS database (incorporated herein by reference), continue to exceed the NAAQS by margins as wide or wider than those predicted by UAM.

In the DC area, data through 1999 show current violations of the NAAQS at 4 different monitoring sites: Greenbelt, Suitland-Silver Hill, Charles County, and Washington (monitor #110010043-1). A peak of 141 ppb was recorded in 1999 at Greenbelt, 135 in Washington, 135 in Arlington, and 134 at Seven Corners (Fairfax Co.) Even if one were to assume a 7 ppb reduction in ambient levels from the NOx SIP call (which is near the middle of the 5-10 ppb reduction attributed to the SIP call in the TSD), the Greenbelt monitor would still be in violation. If EPA gives weight to actual monitoring data, then it must find that the SIP does not demonstrate attainment. EPA also fails to give any weight to other factors showing that the SIP under-predicts future emissions, such as its understatement of the portion of Sport Utility Vehicles and gas trucks in regional vehicle fleets.

In Atlanta, a review of air quality measured at the four monitoring stations located in the urban core during the summer of 1999 with concentrations predicted for these sites by the UAM after taking account of the emissions reductions achieved by implementation of the 9% ROP measures prior to the 1999 ozone season, showed an extremely small variance between monitored and modeled concentrations of approximately 4 parts per billion. See preliminary comments submitted October 1999 to Region IV and comments on the adequacy of the MVEB submitted December 20, 1999, by Environmental Defense [incorporated herein by reference]. It is also worth noting that in Atlanta the UAM results also significantly **underestimated** peak concentrations at two suburban stations downwind from the urban core. This strong agreement between the modeled and measured air quality in the highest monitored locations, and the model's failure to accurately anticipate high suburban concentrations is the best evidence that the model is reliable as an air quality planning tool for estimating the effects of emissions reductions on regional maximum peaks,

and that it overpredicts the air quality benefits of regional emissions reductions on downwind suburban areas. There is no rational basis for EPA not to require its use in evaluating the adequacy of final attainment demonstrations submitted by the states. Given the evidence in the record, there is certainly no rational basis for EPA to substitute a method that would require substantially fewer emissions reductions than those required by UAM.

For all these reasons, EPA may not lawfully approve attainment demonstrations based upon UAM results that demonstrate violations rather than attainment of the NAAQS. Additional emissions reductions needed to attain may be estimated using EPA's WOE Guidance for the purpose of suggesting hypothetical reductions that may be tested through the approved modeling technique, but EPA may not lawfully determine that attainment strategies meet the attainment demonstration requirements of the Act unless such emissions reduction strategies are demonstrated to attain the NAAQS using UAM.

b. EPA cannot extend the attainment deadline for Serious Areas:

The Act requires the SIP[2] for a serious area (the Washington DC-MD-VA area (hereinafter, "DC area"); the greater Connecticut area; the Atlanta GA area; and the Springfield MA area) to demonstrate attainment of the 1 hour ozone health standard as expeditiously as practicable, and no later than November 15, 1999. 42 U.S.C. 7511(a)(1), 7511a(c)(2)(A). The SIPs at issue here flout this requirement. Each serious area plan on its face shows that the control measures described therein will not by themselves be adequate to produce attainment at any point in time, and clearly not by 1999.

EPA does not have legal authority to extend the attainment deadline until hoped for NOx reductions occur from upwind states in response to the NOx SIP call and/or section 126 actions. Such an extension conflicts sharply with the Act's explicit serious area attainment deadline, and is not authorized by any provision of the statute. A detailed explanation of our objections to this extension policy is provided in the attached comments (incorporated herein by reference) that were filed by Earthjustice in Docket #A-98-47 on EPA's March 25, 1999 Federal Register Notice regarding the extension policy.

EPA's reliance on SIP call reductions is particularly unjustified in the D.C. Area, given that Virginia – one of the states responsible for producing attainment in the area - is challenging EPA's authority to require those very reductions. EPA cannot rationally grant NOx reduction credit for measures that a participating state openly refuses to implement, and is affirmatively seeking to prevent. See 42 U.S.C.§7410(a)(2). EPA also cannot grant credit for SIP call reductions when the SIP call has been judicially stayed. Under the Act and EPA guidance, emission control measures are not creditable unless they are legally enforceable – a test that the SIP call does not currently meet. Id.

Even if deferral of the attainment deadline were allowable, the serious area SIPs fail to show why such a deferral could possibly be justified. This is not a situation where the states have adopted all available measures and still cannot show attainment due solely to transport. Rather, as

[2] Although the proposal at issue here addresses three SIPs, they are referred to here collectively as one SIP or plan because they were submitted collectively in Phase I and II submittals by MWCOG.

discussed below, the states have adopted only a limited set of control measures, and have failed to even consider more stringent and additional controls that could hasten attainment. In fact, the states have refused to even identify the levels of VOC and NOx emissions that would be consistent with attainment in the absence of NOx reductions that would be required by the NOx SIP call. Nor do the plans state the level of VOC and NOx emission reductions that would be needed to produce attainment in the absence of such upwind reductions. EPA cannot rationally find that transported NOx renders attainment impracticable in the serious areas, when the states have neither quantified the reductions that would be needed locally to attain in the absence of transport reductions, nor shown that that such reductions are unachievable through adoption of additional state and local control measures.

Nor have the states demonstrated that these areas would attain but for transport. To the contrary, in the DC area episode specific data shows that the second highest ozone exceedance recorded last summer occurred on July 18, a day on which air parcels affecting the nonattainment area originated in Northern Virginia. Metropolitan Washington Council of Governments (MWCOG), Ozone Season – 1999 Washington Metropolitan Area, www.mwcog.org/dep/air/ozonesummary/sld012.htm , www.mwcog.org/dep/air/ozonesummary/sld010.htm In Atlanta, meteorological data also suggests that some of the highest ozone episodes occur after extended periods of stagnation when transport into the region is negligible. Absent a showing by the states that high pollution days are consistently attributable to transport, EPA cannot reasonably exempt the states from the obligation to control local sources to the degree necessary for attainment, or allow them to substitute expected reductions from upwind sources in lieu of control of local sources of ozone precursors.

Some serious area plans also fail to meet the requirement of EPA's transport policy that the states adopt all local measures required under the area's current classification. Among other things, Virginia, D.C., and Maryland have failed to adopt NOx RACT programs that meet all applicable requirements of the Act and EPA guidance. Such programs are clearly mandated for serious nonattainment areas, and in fact should have been fully adopted and approved by EPA six years ago. 42 U.S.C. §7502(c)(1), 7511a(f).

c. Failure to provide for attainment as expeditiously as practicable: The Act requires serious area SIPs to demonstrate attainment with the ozone NAAQS "as expeditiously as practicable" and in no event later November 15, 1999. 42 U.S.C. §§ 7511(a)(1), 7511a(c)(2). Where a date-specific attainment deadline has passed, the SIP must provide for attainment as soon possible using every available control measure. Delaney v. EPA, 898 F.2d (9th Cir. 1990). The SIP here does not meet these requirements. The states have made no attempt to provide for attainment as soon as possible (or as expeditiously as practicable). Instead, they have assumed an attainment date of 2003 (Atlanta) or 2005, and have not even evaluated the possibility of attaining sooner (see discussion below on failure to evaluate or adopt all reasonably available control measures). Because the SIPs do not meet the Act's basic requirements for timely attainment and make no attempt to correct that failure by attaining as expeditiously as practicable, EPA must disapprove them.

d. Failure to meet rate of progress requirements:

i. 9% ROP: All the serious area Plans fail to demonstrate a 9% post -1996 reduction in VOC emissions as required by 42 U.S.C.§7511a(c)(2)(B). The Act required that this 9% reduction be achieved by November 15, 1999. Although the states' Phase I SIP submittals purported to satisfy this requirement, they are inadequate for several reasons.

Some 9% demonstrations assume that a 1% reduction in NOx emissions is equivalent in ozone reducing benefit to a 1% reduction in VOC emissions. This assumption is apparently based on EPA's NOx Substitution Guidance (Dec. 1993)(Guidance). That Guidance is legally flawed because it allows NOx substitution without a demonstration that such substitution will in fact provide ozone reductions at least equivalent to that which would result from a 3% annual cut in VOC emissions. 42 U.S.C. 7511a(c)(2)(C). The states cannot use a 1% for 1% NOx substitution without proving that a 1% NOx cut will in fact provide ozone reductions at least equivalent to that resulting from a 1% VOC cut.

Moreover, the substitution proposed in the Phase I plan is not allowable even under EPA's Guidance. The Guidance allows equivalent percentage substitution only if the control strategies incorporating the NOx emission reduction measures "demonstrate that the ozone NAAQS will be attained within time periods mandated by the Act." Guidance at 2. That condition is plainly not met here because the plan does not demonstrate timely attainment of the ozone NAAQS.

More recent EPA guidance dated 1/10/00 for NOx substitution in out-year conformity budgets requires 1.6 tons in NOx reductions to offset 1 ton of VOC reductions. Although we still believe the states must prove the validity of their NOx substitution ratios as discussed above, the 9% demonstration does not use the ratio of 1.6 to 1 required by the more recent EPA guidance. EPA cannot approve a 9% demonstration that uses inaccurate and unverified NOx for VOC substitution ratios.

In addition, the plans do not show that emission reductions from adopted control measures will actually be achieved by November 15, 1999. Although the plans cite various rules and programs that have been (or are being) adopted to reduce emissions, they do not demonstrate that actual compliance with the rules and implementation of necessary programs will be achieved by the deadline or that claimed emission reductions will be fully realized by that date.

The 9% demonstration is also flawed because it relies on emission reductions that are not creditable, credited too soon, or overstated, as reasons further discussed below.

ii. Post '99 ROP: All the Plans also fail to demonstrate emission reductions of 3% per year over each 3 year period between 1999 and 2003 or 2005 (whichever is the requested attainment date), as required by 42 U.S.C. §7511a(c)(2)(B). Under the statutory schedule, each plan must provide for a 9% reduction in VOC and/or NOx emissions by 2002, and another 9% between 2002 and 2005. The states have not even attempted to demonstrate compliance with these requirements, and EPA has not proposed to find that they have been met.

EPA has absolutely no authority to waive the statutory mandate for 3% annual reductions. The statute does not allow EPA to use the NOx SIP call or 126 orders as an excuse for waiving rate of progress deadlines. The statutory ROP requirement is for emission reductions – not ambient

reductions. Emission reductions in upwind states do not waive the statutory requirement for 3% annual emission reductions within the downwind nonattainment area.

e. Illegal crediting of unapproved measures: Both the attainment and rate of progress demonstrations are further flawed because they rely on emission reductions from control measures that have not been fully approved by EPA as part of the SIP. For example, such measures include NOx RACT rules for the three DC area states, none of which has received full EPA approval. Maryland only recently submitted its NOx RACT rules for EPA review. EPA cannot credit the SIP with NOx reductions until the state adopts source specific RACT limits.

EPA also cannot credit NOx reductions claimed for various measures that have not yet been submitted to EPA. Nor can EPA allow the states to take credit for OTC rules in Phase 2 SIPs where such Phase 2 rules have not yet been approved by EPA.

f. Over-crediting of national rules: Plans also claim emission reduction credit from relatively recent national EPA rulemakings for surface coatings and consumer products. In most cases, the credit claimed is based on EPA estimates of emission reductions from proposed versions of these rules. However, the final versions of the rules are weaker than the proposed rules in a number of key respects. Compare 63 Fed. Reg. 48806 (1998), 63 Fed. Reg. 48819 (1998), 63 Fed. Reg. 48848 (1998) with 61 Fed. Reg. 14531 (1996), 61 Fed. Reg. 32729 (1996). Among other things, the final rules extended compliance deadlines, relaxed VOC limits for several types of sources, and allowed some sources to avoid limits all together. The credit claimed for these national rules must be recalculated to reflect only the actual emission reductions that can be expected under the EPA rules as finally adopted.

g. Inaccurate model assumptions

The attainment and rate of progress demonstrations in most states are further flawed because they assume a fleet mix that does not accurately reflect the growing proportion of sport utility vehicles (SUVs) and gasoline trucks, which pollute more than conventional cars. EPA and the states have not followed a consistent practice in updating SIP modeling to account for changes in vehicle fleets.

In Maryland, the state assumed a fleet mix based on 1996 registration data. In Atlanta, the State has not updated the fleet mix assumptions underlying the motor vehicle emission inventory since 1990. The underestimation of motor vehicle emissions from this failure can be significant.

Data from MDE allows a comparison of the change in fleet mix during the last three years. Vehicle registration data shows substantial growth in the percentage of the fleet consisting of SUVs and gas trucks. For example, between 1996 and 1999, the percentage of all registered vehicles in the LDGT1 category (SUVs and trucks to 6000 lbs.) rose 3.2% in Prince George's County, and 3.9% in Montgomery County. Similar increases occurred in Calvert, Charles and Frederick counties. There is every reason to expect that comparable increases also occurred in other nonattainment areas. These data suggest that in areas where the motor vehicle emission inventory has not been updated for a decade, emissions may be understated by 10 to 15%. As EPA is aware, SUVs and trucks emit ozone forming pollutants at substantially higher rates than conventional cars.

EPA mobile source emission factors reflect that difference. In substantially understating the proportion of SUVs and trucks in the fleet, the SIP necessarily understates current and future mobile source emissions. Needless to say, EPA cannot rationally approve attainment and ROP demonstrations that are based on such materially inaccurate assumptions. Continued use of such out-dated assumptions is clearly inconsistent with the duty imposed by § 182(a)(3) to triennially update the emission inventory. If the motor vehicle inventory has not been updated to prepare the current SIP submission, it should be disapproved.

2. Failure to evaluate or adopt all reasonably available control measures:

The Act requires nonattainment plans to provide for implementation of all reasonably available control measures (RACM) as expeditiously as practicable. 42 U.S.C. 7502(c)(1). EPA interprets this requirement as imposing a duty on all nonattainment areas to consider all available control measures, and to adopt and implement any such measures that are reasonably available. 57 Fed. Reg. 13498, 13560 (1992). States must provide a justification, supported on economic or technological grounds, as to why measures within the arena of potentially reasonable measures have not been adopted. EPA, Guidance on the Reasonably Available Control Measures (RACM) Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas, Memorandum from John Seitz to Regional Air Division Directors, 12/2/99, published at: www.epa.gov/ttn/caaa/t1/memoranda/revracm.pdf (hereinafter, 1999 RACM Guidance). Further, to show that RACM are being implemented as expeditiously as practicable, the state must explain why the selected implementation schedule is the earliest schedule based on the specific circumstances of that area. Id. Such claims cannot be general claims that more time is needed but rather should be specifically grounded in evidence of economic or technologic infeasibility. Id.

The SIPs at issue here do not meet these requirements. The plan contains only a limited set of control measures, and fails to offer any justification for the states' failure to adopt numerous available measures that were specifically identified by EPA, the regional planning agency, the states themselves, and public comment. Further, the SIP contains no demonstration or claim that the implementation schedule is the earliest practicable one.

EPA, STAPPA, the separate states and the public have all identified measures that have been implemented, and that are generally available in most areas. These list are not discussed in the SIP submissions. The States have not provided a basis for concluding that such measures are not reasonably available.

In addition, metropolitan transportation plans adopted by MPOs in each nonattainment area have adopted projects and programs that meet the definition of transportation control measures. Presumptively, these measures are reasonably available since they have already been approved by the metropolitan transportation planning process and have satisfied the requirements for reasonably available funding under TEA-21. These planned TCMs are incorporated into the SIP to the extent that the air quality modeling for the area assumes that the transportation system in the area will, in fact, be the system in the MPO plan. But rarely are the projects and programs in the regional transportation plan that would qualify as TCMs included in the SIP. Plainly, the states have not complied with the mandate to adopt all RACM and EPA guidance construing that mandate.

a. Transportation control measures: The plans are particularly deficient with respect to transportation control measures (TCMs). Mobile source emissions are the largest individual components of both the VOC and NOx inventories, but the plans contain no or few serious new measures to reduce growth in vehicle travel. Most plans do not seriously consider the possibility of major expansion of transit service, reduced or zero transit fares, pricing strategies, trip-reduction ordinances, employer-based transportation management plans, and expanded pedestrian and bicycle facilities.[3] These and other TCMs are listed in section 108(f) of the Act, and in EPA guidance documents that identify more than 70 individual measures within broad TCM categories. 42 U.S.C. 7408(f); 57 Fed. Reg. at 13560 (citing SAI, IT, PES-9-90); EPA, Transportation Control Measure Information Documents, draft (Office of Mobile Sources, Oct. 1991); EPA, Transportation Control Measures: State Implementation Plan Guidance (Office of Mobile Sources, Sept. 1990). See also EPA, Serious and Severe Ozone Nonattainment Areas: Information on Emissions, Control Measures Adopted or Planned and Other available control Measures, Tables 11 and 12 (11/24/99); STAPPA/ALAPCO, Controlling Nitrogen Oxides Under the Clean Air Act: A Menu of Options 133-90 (July 1994); STAPPA/ALAPCO, Meeting the 15% Rate of Progress – A Menu of Options, 15-70 (Sept. 1993) . Most states have themselves identified numerous TCMs that have significant emission reduction potential. See, e.g., U.S. Department of Transportation, Federal Highway Administration, Metropolitan Planning Technical Report No. 5, Transportation Control Measure Analysis – Transportation Control Measures Analyzed for the Washington Region's 15 Percent Rate of Progress Plan (Feb. 1995); State of Arizona, Arizona Governor's Air Quality Strategies Task Force Report (2/17/98) available on the web at: www.adeq.state.az.us/air/plan/report.pdf.. In addition, MPOs for the nonattainment areas have adopted regional transportation plans that include TCMs such as transit programs, transit expansion, HOV, park and ride, van pool and other shared-ride services, regional signalization programs, and bicycle and pedestrian programs.

A 1996 study by the Chesapeake Bay Foundation (CBF) and the Environmental Defense Fund (EDF) found that a combination of transit oriented development and pricing strategies (e.g., parking surcharges, transit subsidies, carpool subsidies, HOV tolls) could substantially reduce vehicle trips and miles traveled in the metro D.C. area. CBF & EDF, A Network of Livable Communities, Appendix (May 1996). Cuts in trips and VMT would necessarily reduce both VOC and NOx emissions. The CBF/EDF scenario assumed that traffic calming, sidewalk and bicycle path construction, and other strategies would be used to produce pedestrian- and bicycle-friendly urban areas transit-oriented centers. Id. These strategies are equally available in other areas although they would need to be tailored to fit the specific community characteristics of each area.

There is also substantial evidence that significant air quality benefits can be achieved by modifying land development patterns to limit urban sprawl and facilitate transit use. A recent EPA-funded report concludes that careful land use planning can reduce vehicle trip lengths and promote shifts to transit, bicycling and walking modes. EPA, Office of Mobile Sources, Background Information for Land Use SIP Policy, Final Report , Contract No. 68-C7-0051 (9/30/98)(available on EPA, OMS web site, and appended to our prior comments as Exhibit D). For example, the report cites studies showing that development at infill sites can result in vehicle NOx emissions that are 27% to 42% lower than at more dispersed locations. Id. at 5. The report

[3] Examples of potential pricing strategies include congestion pricing, parking fee and surcharge programs, and mandatory cash-out subsidy for transit.

identifies specific strategies to achieve such results, including planning that promotes transit-oriented development, density transfers, and design elements that encourage pedestrian, bike, transit and ridesharing activity (e.g., narrower streets, sidewalks, bike lanes, traffic calming devices). Id. at 10-11. The report further identifies a number of cities throughout the nation where such strategies have been adopted and included in air quality plans. Id. at 20-33. For example, the maintenance SIP for Portland, Oregon identifies several land use TCMs, including an urban growth boundary, requirements for transit-oriented development, and a regional parking policy. Id. at 24-25. The 1994 Sacramento, CA., ozone SIP contains land use-related TCMs, including a requirement that new developments include mitigation measures to achieve a 15% reduction in vehicle emissions. Id. at 22-23. The San Francisco clean air plan includes land use planning measures, and programs to promote pedestrian travel and traffic calming. Id. at 21-22. The EPA report also identifies a number of other land use TCMs that have been adopted in other cities, although not yet included in clean air plans. Id. at 26-30. All of the above-referenced strategies are within the arena of potential RACM that must be considered by the states. See 42 U.S.C. 7408(f)(1)(A)(xiv).

Another demonstrated TCM Commuter Choice based on the tax subsidy for commuter travel by transit enacted by Congress in TEA-21. See Attachment A for a more detailed description of the program. EPA has estimated significant NOx and VOC reductions that are attributable to implementation of this program in New York City. The scope of the program could be significantly expanded through marketing, matching state tax credits and implementation for public employees. The program is clearly "available" nationwide through ISTEA, but many options are open to states to encourage, promote, subsidize or even require its use in nonattainment areas.

The states have generally not included the foregoing measures in their SIPs, and offered no justification for that failure.[4] Many states evaluated numerous RACM as part of the development of their 15% plans, but have not updated that review with regard to the development and adoption of final implementation plans. The process that States undertook in the early 1990's looked only at measures needed to meet the 15% Rate of Progress requirement for VOCs. It did not consider or quantify the potential NOx benefits of any measures, and did not evaluate RACM for purposes of timely attainment. Further, the process did not review all of the above-mentioned TCMs, did not recommend adoption of specific measures, and did not give justifications for rejecting unadopted measures. For example, New Jersey actually submitted a lengthy set of TCMs as part of its 15% plan, but then later withdrew it with EPA's approval in 1996 because it was not necessary to implement the 15% SIP requirement. Such early reviews of potential TCMs provide a starting point for states to revisit availability of TCMs, but do not support any conclusions about predicted emission reductions or the current cost per ton of various measures, or provide a narrative evaluation of the pros and cons of each measure. Moreover, a cursory process that took place nearly seven years ago hardly suffices to determine what strategies are reasonably available today.

[4] The 1999 Maryland General Assembly enacted a 50% tax credit for employer subsidies of employee transit fares. This program, however, was not included in the SIP. Moreover, neither D.C. or Virginia have adopted a similar program. The tax credit program is clearly a RACM that must be included in the SIPs for all three jurisdictions. In addition, the states should include a program requiring employers to provide a parking cashout option to employees who agree to stop driving to work. Such a program has been adopted in Los Angeles, and the evidence shows that one out of eight people who used to drive have taken advantage of the program. Shoup, Evaluating the Effects of Cashing Out Employer-Paid Parking, Transport Policy, Vol. 4, No. 4, Oct. 1997, pp. 201-216. We specifically urged adoption of all of the foregoing RACM in our comments to the states, but the states rejected them with the assertion that additional emission reductions were not needed.

c. Other Control measures:

STAPPA's 1993 report recommended adoption of California or South Coast Air Quality Management District (SCAQMD) controls/limits for various source categories. It further recommended targeting elimination of solvent degreasing, limits on pesticide application during the ozone season, source reduction for discharges to sewage plants, improved rule-effectiveness measures, enhanced enforcement of Stage II Vapor recovery requirements, and numerous other measures. No state has adopted all these measures as far as we can determine. Nor have any of the states offered express consideration of these measures accompanied by reasoned explanations for their rejection.

Among the measures identified in the Arizona report are: expansion and increased stringency of I/M 240, an expanded remote sensing program to detect excessive on-road vehicle emissions, snap acceleration testing for diesel vehicles, CARB diesel fuel standards, a lawn equipment replacement program, and clean fuel vehicle programs. The submitted SIPs do not commit to implementation of all, or in some cases, not even one of the measures recommended in the Arizona report.[5]

Another control measure that has been implemented in an increasing number of areas around the nation is the phase-out of diesel buses and fleet vehicles on an accelerated schedule and replacing them with new buses and fleet vehicles powered by substantially cleaner fuels, such as natural gas or stored electric power. Studies show that in-use emissions of NOx and VOCs by natural gas buses are about one-third those of diesel buses. Natural Resources Defense Council, Exhausted by Diesel, How America's Dependence on Diesel Engines Threatens Our Health, Ch. 6 at 1-2 (1998)(available at: www.nrdc.org/nrdc/nrdcpro/ebd/chap6.html). See also T.C. Coburn, B.K. Bailey, and K.J. Kelly, National Renewable Energy Laboratory, Results from Federal Emissions Tests on Alternative Fuel Vehicles and their Implications for the Environment and Public Health. Numerous businesses and bus systems around the nation are now using CNG vehicles, and thus it is clearly an established technology. NRDC Report at 3-10. For all these reasons, and given the substantial number of diesel fleet vehicles operating in the D.C. area, a diesel conversion program is clearly a RACM that must at least be considered for inclusion in the SIP.

d. Industrial source controls

As noted above, some states have not adopted adequate, creditable provisions for NOx RACT as mandated by the Act.[6] The states cannot claim any emission reduction credit for generic

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[5] By "clean fuel vehicle programs," we are referring to recommendations in the Arizona Report for: a tiered tax incentive program for individuals and businesses to use or convert to specific types of alternatively fueled/low emitting vehicles (e.g., electric, natural gas); certification standards for clean fuel vehicles; and requirements for government agencies to convert to clean fuel vehicles. We are not referring to programs requiring use of cleaner burning gasoline in conventional motor vehicles. We realize that some D.C. area government agencies have converted some vehicles to alternative fuels, but the SIP offers no new programs requiring such conversions on a broader scale.

[6] The Revised Phase II SIP (January 2000) cites expected NOx reductions at various sources in Maryland and Virginia due to NOx RACT requirements. We asked MWCOG to indicate whether these estimates are based on enforceable,

RACT rules that have not been converted into enforceable, source specific emission limits.[7] In addition, the plan must at least require all states to extend VOC RACT to 25 ton per year sources, as has been adopted by Maryland. This is clearly reasonably available. The fact that this strategy has been adopted by Maryland shows that it is RACM for other states as well. All of the states should also extend NOx RACT to 25 ton per year sources. If a 25 ton per year threshold is RACM for VOC RACT, then it ought to be RACM for NOx RACT as well. States must also consider whether Nox and VOC RACT should be applied to source larger than 10 T/Y.

The Phase II NOx limits agreed to by OTC states are also clearly RACM, as they are widely in effect. States that have not adopted such measures have not adopted enforceable NOx RACT limits for all relevant facilities within its jurisdiction. It is not sufficient for States to assert that they will adopt additional NOx controls if needed. The Act requires each SIP to include all reasonably available control measures now, and to show that such measures have been adopted in legally enforceable form.

5. Mobile Source Emissions Budget:

The mobile source emission budgets in the plans are by definition inadequate because the SIPs do not demonstrate timely attainment or contain the emissions reductions required for all RACM. EPA may not find adequate a MVEB that is derived from an SIP that is inadequate for the purpose for which it is submitted. See 40 CFR 93.118(e). For the reasons set out above, the submitted SIPs contain inadequate attainment demonstrations, inadequate implementation of the 9% ROP, and fail to implement all RACM, including reasonably available TCMs.

The Act requires that motor vehicle emission budgets implement the statutory requirement that they be "consistent with estimates of emissions from motor vehicles and necessary emissions reductions contained in the applicable implementation plan...." § 176(c)(2)(A). To be consistent with the Act, the mobile source budgets must be lowered to levels that are consistent with implementation of all transportation RACM and attainment of the NAAQS. Only through the implementation of all RACM, including all reasonably available TCMs in an area, will the MVEB contribute to the statutory requirement that the SIP provide for attainment of the NAAQS as expeditiously as practicable. § 181(a). None of the MVEBs submitted by the states that EPA is considering for adequacy is consistent with either the level of emissions achieved by implementation of all RACM, nor are they derived from SIPs that provide for attainment.

A MVEB that meets these tests may also achieve emission reductions beyond those necessary for attainment of the 1-hour NAAQS, but attainment of the 1-hour NAAQS is not the only objective defined by the Act. Protection of public health is the ultimate goal. To the extent that implementing all RACM, and setting a MVEB that reflects the level of motor vehicle emission

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source specific emission limits, and if so cite the specific permit or rule containing such limit for each source.We also asked MWCOG to specify: a) The control effectiveness assumed in these estimates (i.e., as percentage of emissions controlled); and b) the basis for claiming that this level of control constitutes RACT at the source in question. MWCOG provided no response to these comments.

[7] Maryland adopted some categorical NOx RACT rules last September. However, we contend that the proposed rules do not meet RACT requirements for a number of source categories. See attached letter to MDE dated September 3, 1999 (incorporated herein by reference).

control achieved by all RACM, provides additional progress toward improving air quality beyond the 1-hour NAAQS, it contributes to achieving the public health purpose of the Act.

In addition, the MVEB must also be set at a level that is consistent with attainment when considered together with those emission reductions from other (non-mobile) source categories that are adopted and enforceable as of the adoption date of this plan. Accordingly, the mobile source budget cannot assume reductions from measures that are not currently creditable, including the NOx SIP call and the items discussed above. Therefore, even if the MVEB is not required to be set at the level of emissions achieved by implementing all RACM, and may lawfully be derived from an attainment demonstration based on the WOE Guidance discussed above, it nonetheless may not be found adequate unless, when combined with adopted and enforceable control measures in the SIP, it can be shown that the NAAQS will be attained. None of the submitted SIPs contain such a demonstration. Therefore none of the MVEBs may be found adequate based on the record currently before the Agency.

6. Lack of enforcement program and resource commitments:

The Act requires the SIP to include a program to provide for the enforcement of the adopted control measures. 42 U.S.C. 7410(a)(2)(C). See also 40 C.F.R. 51.111. Most plans do address this requirement. None of the plans clearly set out programs to provide for enforcement of the various control strategies relied upon for emission reduction credit. Pollution control regulations are not self-executing - they require vigorous oversight and enforcement.

The Act further requires the SIP to provide necessary assurances that the State will have adequate personnel and funding to carry out the plan. 42 U.S.C. 7410(a)(2)(E)(i). The plans do not meet this requirement. For most measures, the plans do not even provide estimates of implementation costs or personnel needs, let alone commitments to provide the necessary funding and personnel.

Commenters understand that the Phase II plans are part of an entire SIP, that the states had enforcement and compliance programs, that EPA annually reviews the level of enforcement as part of the 105 grant process, and the enforcement is a state responsibility. The mere fact the Phase II plan is part of a larger SIP, however, does not excuse the states from including enforcement programs and funding commitments as mandated by the Act. Moreover, the mere existence of state enforcement programs does not amount to a legally enforceable SIP commitment to implement programs as required by the Act. And EPA review of state enforcement programs in connection with federal grantmaking does not satisfy EPA's duty to ensure that the SIP itself contains the legally required enforcement and funding commitments.

7. **Commitment to adopt additional control measures**: EPA's proposed approval of the attainment demonstrations is conditioned on: a) submission by the states of lists of measures that could be adopted to provide for attainment; b) adoption and submission by the states of commitments to adopt additional measures as needed; and c) future adoption of rules for additional emission reductions. EPA has no statutory authority to allow deferred submittal of control measures required for attainment , RACM, RACT or timely progress, particularly at this late date. Nor does

EPA have authority to accept commitments to adopt control measures in the future in lieu of actual, current adoption of such measures. These states were required by the Act to have SIPs in place by 1994 containing all RACM and providing for attainment as expeditiously as practicable. If additional control measures are required for attainment and/or to satisfy the Act's RACM mandate – and we contend they clearly are for the reasons set forth above – those measures must be adopted and included in the SIP now. Deferred adoption and submittal is not consistent with the statutory mandates in §§ 172 and 181(a) to provide for attainment as expeditiously as practicable, is not consistent with the Act's demand in § 110 that all SIPs contain enforceable measures, violates the principle that measures may not be allowed emission reduction credit until they are enforceable, and exceeds EPA's authority under § 110(k) to approve a SIP or portion thereof if the SIP is not adequate to meet all the statutory tests for approval. In sum, EPA may not approve an attainment demonstration, or a MVEB derived from it, if it is not based on adopted, enforceable control measures that require emission reductions sufficient to attain. See NRDC v. EPA, 22 F.3d 1125 (D.C. Cir. 1994).

Conclusion

For all the foregoing reasons, EPA must disapprove the attainment demonstrations for serious and severe nonattainment area ozone SIPs. The Act prohibits EPA from approving a SIP revision if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of the Act. 42 U.S.C. §7410(l). Approval of the proposed Phase II ozone SIPs, even if modified to include commitments to the additional emissions reductions requested by EPA, would violate this prohibition for all the reasons stated above.

Commenters also object to EPA taking final action on the attainment demonstration without informing the public of the commitments GA makes in response to this notice, and providing further opportunity for comment on the SIP as modified by additional submissions.

Sincerely,

Robert E. Yuhnke
Attorney for Environmental Defense and
Natural Resources Defense Council

APPENDIX A
Transportation Control Measures: Commuter Choice

For the vast majority of working Americans, a free parking space at work has for decades been the sole commuter benefit offered by employers. If you drive alone to work you gain the benefit. If you take transit, carpool, walk, or bike, you lose the benefit and likely pay your own daily transit fare. With this kind of incentive, its no surprise that on any given day nine out of ten American

commuters drive to work (Hu and Young, 1992) and nine out of ten of the cars driven to work have one occupant (Pisarski, 1996). Yet the 85 million "free" or subsidized employer parking spaces actually cost American business $36 billion per year (Association for Commuter Transportation, 1996). By spurring more driving, these subsidies exacerbate traffic congestion and air pollution.

But new federal tax law changes make Commuter Choice incentive strategies universally available as potential Transportation Control Measures to meet Clean Air Act requirements in areas that fail to meet the National Ambient Air Quality Standards to protect public health. The 1998 Federal Transportation Equity Act for the 21st Century (TEA-21) gives new incentives to reward employees and employers who help reduce traffic and pollution problems. The Commuter Choice provisions in TEA-21, Section 9010, modify the Internal Revenue Code and enable employers to offer employees options for qualified transportation fringe benefits. Employees can purchase up to $65 dollars per month in transit benefits using pre-tax income (an amount that increases to $100 in 2002) which slashes the effective cost of transit. Employers can offer tax-free subsidies for their employees' transit costs, with the same limits. And employers can now offer cash in lieu of parking -- "cashing-out" old inflexible parking subsidies. A study of California companies offering this new cash-out option found that one out of eight employees who formerly drove to work chose to leave their car at home so they could instead take a raise in pay (Shoup, 1997).

EPA recently did some estimates of the emissions benefits of the Transitchek program in New York, a transit subsidy program targeting commuters that takes advantage of this federal law change. EPA estimated reductions of about 85 Tons/Yr VOCs, 73 TPY NOx, and 615 TPY CO in 1999.

In correspondence with staff of the Senate Environment and Public Works Committee in 1999, the EPA Office of Mobile Sources estimated that a national commuter choice program assuming a 5-10% employee participation rate would generate:

- A reduction in commute VMT of 1.6 to 3.2%
- Reductions in VMT of 10,000,000,000 to 20,000,000,000 miles
- Emission Reductions of...
  - HC: 27,000-54,000 short tons
  - CO: 240,000-480,000 short tons
  - NOx: 16,800-33,600 short tons
  - CO2 1,180,000- 2,360,000 metric tons

The savings for employees offered by the federal tax law changes are significant and make a 5-10% employee participation rate in the next several years highly realistic, if there is good information and marketing of the tax code changes and steps taken to promote their use. For example, an employee earning $50,000 per year who spends $1000 annually on transit could realize a tax savings (at 42%) of $420 as a result of paying their transit cost using pre-tax dollars, exercising one of the new Commuter Choice options, while their employer would gain payroll tax savings (at 7.65%) of $76 per employee (Arthur Andersen). Even if the cost to set up and administer the program equals 2% of the transit benefit, the employer will still enjoy payroll savings of $56.

Several states and local governments have offered added transit tax credits, including Washington, New Jersey, and Georgia. Maryland in 1999 adopted the largest tax credit; a 50 percent state tax credit for employer-provided transit benefits that saves employers up to $30 a month per employee. Some governments, like Connecticut and Montgomery County, Maryland, sell discounted transit passes to employers, matching employer contributions dollar for dollar, to stretch federal and state tax benefits even farther.

Commuter Choice programs have been shown to unite the diverse interests of environmentalists, business, labor and transit and highway advocates. Most realize that Commuter Choice is good for business and for communities. Commuter Choice is a voluntary incentive that boosts travel options and supports more efficient use of the roads and transit we already have. It can provide quick relief to traffic-strained communities and will expand market opportunities for new forms of access to suburban jobs. Low- and moderate-income workers benefit particularly, since commuting costs represent a larger relative burden on them, and they tend to be more reliant on ridesharing and transit. The Alliance for Clean Air and Transportation, a new national group representing a diverse array of sectors, including the road builders, automobile industry, environmentalist and health groups, the American Association of State Highway and Transportation Officials, the National Association of Regional Councils, and the US DOT and EPA, in February 2000 adopted a consensus goal of making Commuter Choice benefit programs a standard part of the American worker benefit program over the next five years.

But Commuter Choice will not have any effect unless people know about it and use it. Non-attainment areas that need to adopt additional TCMs to demonstrate timely attainment should include the following elements as part of their SIPs: Municipal and state agencies should promote Commuter Choice options to employers and commuters and offer it to their own workforce. Commuter Choice should be an element in transportation improvement programs and plans, traffic studies, access-to-jobs programs, public and private human resource and benefits compensation programs, economic development and promotion strategies, zoning and site design reviews, parking ordinances, transit marketing and fare promotion, and local tax policy. The Maryland Department of Transportation, for example, has proposed to fund a Smart Commute program in FY01 at $23 million to promote Commuter Choice, telecommuting, and alternative commute program strategies.

HERE IS THE EPA CORRESPONDENCE REFERENCED ABOVE:

From: ERIK HERZOG <HERZOG.ERIK@epamail.epa.gov> on 04/28/99 12:44 PM GMT

To: Michael Replogle
cc:
Subject: Transtchek Emissions Benefits

We recently did some estimates of the emissions benefits of the Transitchek program in New York, a transit subsidy program targeting commuters, and got reductions of about 85 Tons/Yr VOCs, 73 TPY NOx, and 615 TPY CO. I hope this, and the info in the other e-mail, is helpful.

From: ERIK HERZOG <HERZOG.ERIK@epamail.epa.gov> on 04/28/99 12:36 PM GMT

To: Michael Replogle

cc:

Subject: Re[2]: Commuter Choice emission estimate numbers -Reply -Reply -Forwarded

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Michael:

Dee Upson forwarded your request for benefits information to me. Attached is an estimate of potential nationwide benefits of commuter
choice.

Date: Mon, 01 Mar 1999 10:22:58 -0500
From: MATTHEW PAYNE <PAYNE.MATTHEW@EPAMAIL.EPA.GOV>
To: GREENBERG.ALLEN@EPAMAIL.EPA.GOV, Dan_Corbett@epw.senate.gov
Subject: Re[2]: Commuter Choice emission estimate numbers -Reply -Reply
Mime-Version: 1.0
Content-Type: multipart/mixed; boundary="=_84D299FC.3958365B"

Here is the methodology:
1. Start with Urban passenger vehicle miles (FHWA 1997) =1,475,002M
2. Assume 25% of miles are commute related (FHWA 28% in 1990 and this % has been steadily declining) = 368,760M
3. Assume 10% of this population switches to non SOV =36,875M potential miles
4. Assume a 50% emission reduction (this will of course vary widely in
actuality depending on mode.) =18,438M miles reduced
5. Multiply miles reduced by EPA Mobile model for passenger vehicles.

This is a simplistic national estimation methodology. However consiudering that the main determinant of emission reductions is participation rate- which of course is difficult to estimate accurately- it is a simple easily understood estimate that people with little time to study it can understand. Allen Greenberg has a spreadsheet model that estimates emission reductions from parking cash-out that was put together by consultants at Hagler Bailly. I have not been able to review it as I just recently received it. If you need a more detailed methodology it may be worthwhile following up with him. I believe the results from each are not contradictory to each other given the variables.

>>> Dan Corbett <Dan_Corbett@epw.senate.gov> 03/01/99 09:24am >>>

Is the 5-10% include all employees or just metropolitan or other subset?

Also, when you get a chance, please drop me a note about how you got the 5-10% participation rate assumption (e.g., offerred by x% of employers.....)

Thanks.

Dan

_____ Reply Separator

Subject: Re: Commuter Choice emission estimate numbers -Reply
Author: MATTHEW PAYNE <PAYNE.MATTHEW@epamail.epa.gov> at Internet
Date: 3/1/99 8:29 AM

Employee participation.

>>> Dan Corbett <Dan_Corbett@epw.senate.gov> 02/26/99 11:53am >>>

For the estimate below, does a 5 to 10% participation rate indicate employer participation or employee participation?

Dan

_____ Reply Separator

Subject: Commuter Choice emission estimate numbers
Author: MATTHEW PAYNE <PAYNE.MATTHEW@epamail.epa.gov> at internet
Date: 2/25/99 4:46 PM

** High Priority **

Hi Dan,
I think we spoke earlier on a conference call, but by way of reintroduction I'm the team leader for voluntary measure programs of which commuter choice is a part, I am also the grant officer for the AMA and EDF grants that Dee should have briefed you on today.

Realize that this estimate makes some broad assumptions, however I feel it is a defensible number.

A national commuter choice program assuming a 5-10% participation rate will generate:

A reduction in commute VMT of 1.6 to 3.2%

Reductions in VMT of 10,000,000,000 to 20,000,000,000 miles

Emission Reductions of...
HC: 27,000-54,000 short tons
CO: 240,000-480,000 short tons
NOx: 16,800-33,600 short tons
CO2 1,180,000- 2,360,000 metric tons